

MUMBAI PORT AUTHORITY
TRAFFIC DEPARTMENT

POLICY / STANDARD OPERATING PROCEDURE

**Construction/Repairs of Ship / vessel activity
at Lakri Bunder South/Powder Works Bunder**

PREFACE

Prior to December 2021, the plots of Lakri Bunder South and Powder Works Bunder were used for Ship Breaking activities. Over a period of time. Ship Breaking activity reduced considerably, thus most of the plots remained vacant, unused and prone to encroachment by hutment dwellers / others.

For gainful utilisation of these plots at Lakri Bunder South & Powder Works Bunder and to boost repair/construction activities of ships/barges/crafts/passenger vessels etc., a circular No.TM/B-10/86 dt.10/12/2021 was issued by Traffic Manager to promote ship repairing / construction activities of ships/barges/crafts etc. on recovery of charges as per Scale of Rates of MbPA.

Vide this circular, the concerned associations were requested to inform their members to avail this facility for repairing /constructions of their ships / barges / crafts/passenger vessels etc. at Lakri Bunder South and Powder Works Bunder on payment of charges as per Scale of Rates.

In response to this circular, shipping repairers / constructors / owners were allowed to use the plots on temporary basis for ship repair / construction from April 2022 onwards.

OBJECTIVES

As there is no ship repairing / construction facility in Mumbai district, the port users are facing lot of hardships to repair their barges / crafts / vessels etc. as they have to go out of Mumbai to the destinations like Goa, Gujrat, Cochin etc. Therefore, creating such facility of repair / construction in Mumbai Port definitely help directly / indirectly to all the Shipping Industry as well as Port.

Due to decline of ship breaking activities at Mumbai Port, most of the plots at Lakri Bunder South and Powder Works Bunder are lying vacant. For gainful utilisation of these vacant plots at Lakri Bunder South & Powder Works Bunder and to boost up repair / construction activities of ships, barges, crafts etc., it is decided to promote ship repairing / construction activities ships, barges, crafts etc. on recovery of charges as per Scale of Rates, MbPA.

Therefore, these facilities for repairs / construction of ship / barges / crafts has been created and Systematic operating Procedure (SOP) has been prepared for regulating the repair / construction work at Lakri Bunder South (LBS) and Powder Works Bunder (PWB).

DEFINITION OF KEY WORDS

1. Repairing / Construction : (i) Any Ship / Vessels being constructed or fitted out in the Port Authority hards or anywhere on wharf will be charged as per the Scale Of Rates (SOR), from the date of occupation of the hard for the purpose of construction / repairing.

2. **Date of occupation** - is the date when any part/piece of construction / repairing material kept on MbPA wharf / plot at Lakri Bunder South (LBS) and Powder Works Bunder (PWB) or date of bringing Ship / Vessel, whichever is earlier.
3. **Ship / Vessel** – includes anything made for the conveyance mainly by water of human being or of goods and a caisson, including any object made or intended to float on or in or travel through water.
4. **GRT** – means Gross Registered Tonnage of vessel as per the Ship's Registry or the International Tonnage Certificate issued by the competent authorities or a declaration from defense Authorities in respect of war ships / Naval ships.
5. **DWT** – Dead Weight Tonnage
6. **Advance Monthly Charges** – shall mean charges for 30 consecutive calendar days including holidays in advance.
7. **Temporary Installation** – Not in permanent nature can be removed any time easily.
8. **Temporary Shelter /Porta Cabin** – shall mean used for office space or shelter covered from top used for storage of machinery, spares parts, equipment, etc.
9. **Temporary basis** – For limited / allotted period
10. **Hotwork** – shall mean work involving electric or gas welding, cutting, brazing, or similar flame or spark-producing operation.
11. **Certificate of Registration** - shall mean a document issued by the Authorised Department / Competent Authority showing details of registration and of Ship / Vessel
12. **PPE** – Personal Protective Equipment is specialized clothing or equipment worn by an employee/workers for protection against high intense light, protection from falling object, electric shock, fire burns, smoke, weight impact, etc.
13. **Wait List** – shall mean a list of vessel waiting for construction / repairing activity.

GENERAL

1. This Policy is framed for plots at Lakri Bunder South and Powder Works Bunder. There are 12 plots at Lakri Bunder South (LBS) of approx. size ranging from 1062 sq. mtrs. to 2204 Sq. mtrs. and 9 plots at Powder Works

Bunder (PWB) approx. size ranging from 1824 sq. mtrs. to 5616 Sq. mtrs which are underutilized for Ship breaking will be gainfully utilized for repair/construction of ships/barges/crafts etc. on as is where is basis.

- 1.1 Out of 12 plots at LBS, plot Nos. 11 & 12 are reserved for ship breaking / disposal and storage of wrecks material brought from the harbor on chargeable basis.

In case of storage of wreck material, if multiple requests are received for small area of plot, the above usage of plots will be permitted on sharing and chargeable basis.

2. Ship Repairer/ Construction Agency shall be registered with Mumbai Port at Operation Service Center on submission of relevant documents (list annexed) alongwith Bank Guarantee for an amount of Rs.5,00,000/-. The period of Bank Guarantee shall be of 3 years and claim period is of one year and it should be renewed every 3 years before its expiry.
3. Plots shall be utilized only for activities related to repairs / constructions of Ship / vessel. The plots are allowed to be used purely on temporary basis, on advance recovery of charges as per provisions of Scale of Rates, as applicable.
4. Once the Ship / vessel completes repair/construction and it is removed from the plot and also on removal of ship repairs/construction material from the plot, the plot shall be vacated immediately by proper handing over/taking over procedure (**Annexure - IV**) and payment of up-to-date Port charges.
5. Temporary installations such as fencing/erecting gate/Security Gates/ making temporary shelter for goods and machinery, office, porta cabin for office, installing CCTV system in the plot is permitted at the Ship Repairer/ Construction Agency's expense, provided all the installations are temporary in nature etc., and shall dismantle all the installations on vacation of the plot and it must be removed before vacating/handing over the plot.
The Ship repairer / construction Agency shall submit this in one time Undertaking / Indemnity Bond in format enclosed as **Annexure - V**
6. The Ship Repairer/ Construction Agency shall be liable for all the preliminary security verification of their workers or sub-contractors, who shall be utilized for the work at the plots. It has to be ensured by the Ship Repairer/ Construction Agency that requirements such as NOC, background verification as implied by Mumbai Police/other Security agencies time to time shall be complied.
7. To enhance effective utilisation of the plots, working is permitted day and night, subject to ensuring provision of adequate lighting/illumination and ensuring safe working practices as per the applicable laws by the Ship Repairer/ Construction Agency. Full responsibility in this regard shall be of Ship Repairer/ Construction Agency.
- 8.1. The Ship Repairer/ Construction Agency permitted to carry out the activity shall be fully responsible for ensuring electrical safety, general safety, environmental conservation activities, pollution control related steps, safe working environment for its employees and workers, mitigating any risk

arising out of its legally authorised activities for which the permission has been accorded

- 8.2. Safety Guidelines for (a) Safety Measures for Ship Construction or Ship Repairs, (b) Guidelines for Work at Height, (c) Guidelines for Confined Space Entry and (d) Guidelines for Mobile Diesel Generator Set Operation are enclosed **as Annexure - VI** compliance of which shall be ensured by Ship Repairer / Construction Agency. It shall be the sole responsibility of Ship Repairer / Construction Agency to ensure its compliance.
- 8.3. Checklist before commencement of work and safety precautions to be taken for carrying out Hot Work is enclosed as **Annexure VII**, compliance of which shall be ensured by Ship Repairer / Construction Agency. It shall be the sole responsibility of Ship Repairer / Construction Agency to ensure its compliance.
- 8.4. Officers of Safety Cell, MbPA and Port Safety & Fire Officer have powers to inspect and suggest in writing about any improvement which the Ship Repairer/ Construction Agency has to agree and comply within time. Non-compliance / breach of improvement notice shall be treated as breach of terms and conditions on which permission is granted.
9. Ship repairer/ construction agency shall be responsible for the acts carried out on the plot and also for compliance of all applicable statutory requirements / Laws / Regulations including related to workers.
- 10.1 The requests for repair / construction for new Ship / Vessel proposed to be brought for repairs / construction will be permitted, if no vessel of other Ship repairer/ construction agency is on Waiting List for the plot. The plot will be allowed to be used by the Ship repairer/ construction agency subject to fresh applications and other conditions fulfilled as per the MbPA Policy. Such permissions will be granted vessel-wise Further, the Ship repairer/ construction agency has to ensure make advance payment of 1 month charges.
- 10.2 Should pay Water Conveyance / MLF charges till the date of arrival of Ship / vessel on the plot.
11. Ship Repairer/ Construction Agency shall have to make their own arrangements for temporary infrastructure and utilities required for repair/construction of Ship / vessel.
- 12.1 Ship Repairer/ Construction Agency shall be responsible for the acts carried out on the plot and also for non-compliance, if any, of statutory requirements of Govt. of India or any State Govt. or any other statutory authority, till the plot is peacefully and lawfully vacated and surrendered by the Ship Repairer/ Construction Agency to the Mumbai Port Authority after completion of construction / repair activities or as per the requirement of MbPA. The Ship Repairer/ Construction Agency will absolve MbPA from all the liabilities that may arise.
- 12.2 Non-compliance by the Ship Repairer/ Construction Agency in regards to any statutory requirements, Laws, Regulations shall be liable for punitive action upto cancellation of the permission followed by action of forfeiture and encashment of Bank Guarantee of the Ship Repairer/ Construction Agency.

13. Ship Repairer/ Construction Agency shall ensure that no oil/ chemical is spilled or garbage or rubbish is thrown anywhere on the plot/ beach where the activity has been permitted, failing which a blanket penalty of Rs. 1 Lakh per incident shall be levied on the Ship Repairer/ Construction Agency. In case it is found during the investigation that the spill has been deliberate, the agency would be blacklisted for 5 years and Bank Guarantee shall be forfeited and encashed.
14. Repairer / Constructor shall not burn any material on the plot.
15. The Ship Repairer/ Construction Agency shall collect and dispose of the waste generated on the plot in accordance with applicable regulation. The Ship Repairer/ Construction Agency shall not allow the waste to be scattered/ spilled on the plot and try to recycle the maximum waste with the help of approved recycler and shall submit monthly report to the Shed Supdt.
16. In case of any eventuality/ accident, the Ship Repairer/ Construction Agency shall take adequate steps to respond to the eventuality by itself or invite help from legally designated agency and also immediately inform concerned statutory agencies and concerned officers of MbPA also.

INDEMNITY CLAUSE

17. The Ship repairer / Construction Agency has to give an undertaking to indemnify and shall keep Board of Mumbai Port Authority indemnified throughout the activity period for against any claim, demand, loss, costs, charges, damages or expenses whatsoever, which may be incurred or suffered by the said Board / Port due to any fault or deficiency during the Ship repairing / construction activity. The Ship repairer / construction Agency shall submit this in one time Undertaking / Indemnity Bond in format enclosed as **Annexure - V**

APPLICATION / PERMISSION

- 18.1 Application for repair / construction of Ship / Vessel shall be submitted online in proforma at **Annexure - IA** along with documents as per **Annexure – IB**. VCN of MbPA is mandatory for ship / vessel to be brought for repairs
- 18.2 An application fee of Rs.5,000/- per vessel will be recovered, which will be adjusted towards repairing charges due on successful completion of repair/ construction of the vessel.
- 19.1 Permission for usage of plot shall be vessel-wise subject to availability and suitability of plot for repair/construction on first come first serve basis. Vessel-wise waiting list will be maintained, if all the plots are occupied. Permission to use the plot will be given vesselwise and on occupation of all plots, a waitlist of all remaining vessels will be prepared and plots will be permitted to use as and when they are vacated as per the waiting list. Waiting list will be prepared and updated on the website every week.
- 19.2 Permission granted for repair / construction will be a provisional permission based on the information provided by the Ship Repairer/ Construction Agency, subject to actual verification of its registration document and information available in VCN of Mumbai Port Authority.

- 19.3 Marine Department of MbPA will verify the Ship / Vessel with its related / registration documents
- 19.4 In case of construction, while granting provisional permission, GRT/ DWT will be verified with General Arrangement Plan prepared by an authorized Naval Architect and after construction finally will be verified with its registration certificate
20. Mumbai Port Authority reserves the right to reject the application or otherwise as well as cancel the application and vacate the plots by assigning reasons.
21. Agencies/ Sister concerns/ Partners / Family members / Associates / Affiliate etc. of those agencies who have pending port dues, who have criminal cases pending against them in any court/ have been convicted for criminal offences/ blacklisted by any port, government agencies, will not be allowed to carry out ship repairing / construction activities at Powder Works Bunder and Lakri Bunder South. The Ship repairer / construction Agency shall submit self-declaration about this in one time Undertaking / Indemnity Bond in format enclosed as **Annexure - V**

PAYMENT

- 22.1 Within 3 working days from the date of permission of Traffic Manager, the Ship repairer / construction agency shall pay 1 month advance charges.
- 22.2 The ship repair / construction charges will be leviable as per Section 6.2 of Scale of Rates from the 3rd day of issue of the permission OR date of occupation, whichever is earlier, till the date of de-beaching/ undocking/ launching of the vessel or removal of last piece of ship repair / construction material from the plot whichever later.
- 22.3 The Ship Repairer / Construction Agency shall pay charges for usage of plot upto area of 2160 Sq. mtr. at the rate of Rs. 20/- per sq. mtr per month and for the plot of 2175 Sq. mtr. and above at the flat rate of Rs. 60,000 per month. The payment shall be made in advance for one month and shall pay further on month to month basis till vacation
- 22.4 Vessel which is purposefully grounded beyond lowest low water line towards land (beach profile of the shore), partially or fully shall be treated as beached vessel and all such beached vessel shall have to pay repairing charges as per SOR and MLF charges will not be recovered.
However, Vessel / Ship brought (for idle parking / beaching) at basin around the plot and afloat in low water, MLF charges shall be payable as per Section 5.1(A) of SOR.
- 22.5. GST or any other taxes / Cesses, as applicable shall be payable by user.
- 23.1 Ship Repairer/ Construction Agency shall inform the Shed Superintendent immediately in writing / by e-mail to Bunders Office regarding bringing of vessel or bringing of repair / construction material on the plot. Handing over / taking over procedure as mentioned at para 4 to be complied with.
- 23.2 (i) Ship Repairer/ Construction Agency shall submit Vessel Registration Certificate (VRC) before removal of Ship / Vessel from the plot and pay the up to date charges

- (ii) If GRT is modified and modified GRT is more than the initial GRT, Ship Repairer/ Construction Agency shall pay the necessary repairing charges as per the GRT declared at the time of arrival of the ship for the period of 75% of the total stay of the Vessel / Ship on the plot and shall pay repairing charges as per the modified increased GRT for the period of 25% of the total stay of ship on the Plot.
- (iii) If the modified GRT is less than the initial GRT declared at the time of arrival of the Ship, the Ship Repairer/ Construction Agency shall pay repairing charges as per the initial GRT declared at the time of arrival of the Vessel / ship for the entire period of stay of the ship.
24. Further, on beaching of ship /vessel on permitted plot, the Ship repairer / construction agency shall continue to pay repair / construction charges on monthly basis in advance. Delayed payment, if any, shall attract interest also as per SOR.
Balance advance charges shall be refunded after adjustment of outstanding dues, if any, on vacating the plot by the user.
25. Rate of Interest shall be payable by the Ship Repairer/ Construction Agency on delayed payments as per Scale of Rates.
- 26.1 Shed Superintendent, LBS/PWB and/or Asstt. Traffic Manager, Bunder North District shall issue regular notices to the Ship Repairer/ Construction Agency of the, vessel / ship in case of any defaults such as shortfall in payment, non-vacation of plot after completion of repair / construction, or any other deviation from laid down procedure/practices and forward a copy of the same alongwith report to Bunders Office who in turn will take necessary action under intimation to Traffic Manager's Office.
- 26.2 Ship repairer / construction agency shall not take out the ship / vessel from the plot without permission of Bunder Official.
27. All the charges are subject to revision from time to time and with a condition that additional charges, if any, shall be payable as per SOR.
28. All payments made shall be treated as advance and final charges will be worked out on verification of GRT from registration certificate / VCN (from IPORTMAN)

COMPLETION

29. On completion of vessel work, if there is no other vessel due, temporary installation as stated in para 5 will have to be removed alongwith removal of ship or last piece of ship repair / construction material from the plot failing which it will be treated as storage without permission and charges as at unauthorised rate as per provision of SOR 3.3A (V) (iv) will be payable till the date of removal. In case the Ship repairer / construction agency fails to pay charges as at unauthorised rate, penal action will be initiated which may include action for forfeiture and encashment of Bank Guarantee and blacklisting of the Ship Repairer / Construction Agency till payment of charges and removal of such temporary installations

30. After completion of construction, the user will submit the Certificate of Registration of the Ship / Vessel issued by Competent Authority and the charges shall be recovered from the advance charges as per the certified GRT and difference amount, if any, shall be refunded/recovered as the case may be.

CANCELLATION

31. If 1 month's advance charges, as mentioned at para 22, are not paid by the user within 3 working days from the date of Permission letter, the permission shall stand cancelled.
32. Request for cancellation shall be made by the Ship Repair / Construction Agency within 3 working days of issuance of Permission Letter. If 1 month's advance charges are already paid, balance amount will be refunded after adjusting the proportionate charges, accrued till the date of request of cancellation from the date of issuance of permission letter OR the balance payment shall be considered for advance payment of any other Ship / Vessel, as per the discretion of Traffic Manager.

If 1 month's advance charges are paid and if request for cancellation is made after 3 working days from date of Permission, but within 30 days, 1 months advance charges will be forfeited.

33. If 1 month's advance charges are paid and if Vessel / Ship is not brought within 30 days of issuance of Permission Letter, the permission stands cancelled and 1 months advance charges will be forfeited.
34. In all the above 3 cases at Para 31, 32 & 33 application fees will be forfeited.

BLACKLISTING

35. Ship Repairer/ Construction Agency (firm) shall be black listed for period of five years, in case of mis-declaration of GRT, submission of Forged documents, since permission granted for repair / construction is provisional and based on the information provided by them. In addition, Security Deposit of Rs. 5 lakhs shall also be forfeited (Bank guarantee will be encased and forfeited).

Proprietor / Partners / Directors of such blacklisted Ship Repairer/ Construction Agency (firm) will also be blacklisted for same period.

Further, the Ship Repairer / Construction Agency (firm) concerned shall also be blacklisted in case he / they has/ have been convicted of an offence under the Prevention of Corruption Act 1988 or The Indian Penal Code or any other law for the time being in force for causing any loss of life or property or causing threat to public health.

Firms where such blacklisted person or their close relatives (spouse / children/ parents / sibling) is / are, Proprietor / Partners / Directors, whenever noticed, will also be blacklisted for same period.

A Ship Repairer / Construction Agency (firm) will be given reasonable opportunity to represent against blacklisting

The term 'Firm' includes an individual or person, a company, a cooperative society a Hindu undivided family and an association or body of persons whether incorporated or not, engaged in trade or business.

When any Ship Repairer/ Construction Agency (firm) is blacklisted, 'Allied firm' will also be blacklisted for same period

Allied firm: All concern which come within the sphere of effective influence of the blacklisted firms shall be treated as allied firms. In determining this the following factors may be taken into consideration:

- a) Whether the management is common.
- b) Majority interest in the management is held by the partners or directors of banned/suspended firm.
- c) Substantial or majority shares are owned by the banned/suspended firm and by virtue of this it has a controlling voice.
- d) Directly or indirectly controls or is controlled by or is under common control with another bidder.
- e) All successor firm will also be considered as allied firms.

DISPUTES

36. In the event of any disputes related to this policy for Construction/Repairs of Ship /Vessel activity at Lakri Bunder South/Powder Works Bunder, the matter will be referred to Dy. Chairperson, Mumbai Port Authority and his decision will be final.

REPORTING

37. Form 'A' - Shed Supdt., Lakri Bunder (S) / PWB shall prepare Form 'A' (**Annexure - II**) on arrival Ship / Vessel for repairs on plot or on arrival of repair / construction material, whichever is earlier, as the case may be.
38. Form 'B'- After completion of repair / construction of Ship / vessel, Shed Superintendent, Lakri Bunder South / Powder Works Bunder shall prepare completion of repair / construction report in the Form 'B' (**Annexure - III**) and forward copies to Asstt. Traffic Manager, Bunder North District and Dy. Traffic Manager, Bunders immediately.
39. Traffic Manager to submit monthly Table Paper to the Board on plot allotment / occupancy and revenue generated.
40. This Policy / SOP will be valid till 01.08.2025, subject to review at anytime for extension / updatation / improvement or other action as deemed necessary.

(FORMAT OF APPLICATION)

No.

To,

Traffic Manager
Mumbai Port Authority

Sub: Application for construction / repair of Vessel
M.V. _____
at Plot No. _____

We, the undersigned, intend to construct / repair our Vessel
M.V. _____ at Plot No. _____ of Mumbai Port
Authority. The details of Vessel are as under:

- 1) Name of the Vessel :
- 2) Dimensions of the Vessel :
(i) Length
(ii) Breadth
(iii) Depth
- 3) *Registration No. of Vessel* :
- 4) *IMO No. of Vessel* :
- 5) VCN No. of MbPA :
- 6) *Existing GRT / Proposed GRT (GRT)* :
- 7) *Existing / Proposed Dead weight Tonnage (DWT)* :
- 8) Approved General Arrangement Plan prepared by an authorized Naval Architect :
(in case of Construction of vessel)

We, hereby, undertake to pay all the applicable advance charges, further periodical charges and ensure that there will be no dues outstanding against the subject vessel.

Documents required as per Policy are enclosed

Kindly permit.

Yours sincerely,

(Name, Signature and Seal)

DOCUMENTS TO BE REQUESTED FROM SHIP REPAIRER/CONSTRUCTION OF VESSELS AT PWB/LBS

- 1) Copy of Registration certificate issued by OSC. (One time)
- 2) Photocopy of Ship registry.
- 3) Work order/letter from owner of the vessel authorizing the user for construction/repair of the vessel.
- 4) Undertaking / Indemnity Bond required as per clause Nos. 5, 17, 21 as per format enclosed at Annexure V.
- 5) Photocopy of Receipt of Water conveyance charges / MLF or Pilotage and Anchorage fees paid (to be submitted at the time of docking of vessel.)
- 6) Approved General Arrangement Plan prepared by an authorized Naval Architect (in case of Construction of vessel)
- 7) Receipt of payment of application fee

DOCUMENTS TO BE REQUESTED FROM SHIP REPAIRER/CONSTRUCTOR FOR PROCESSING REFUND.

- 1) Request letter for refund.
- 2) Receipts for payment of
 - a) 1 Month's Advance Monthly charges paid.
 - b) Advance Monthly charges for repair/construction till completion of repair/construction of ship/barge/crafts etc.
- 3) TDS Certificate in original with signature and stamp.
- 4) Challan Copy.
- 5) Copy of GST Registration Certificate.

MUMBAI PORT AUTHORITY
TRAFFIC DEPARTMENT – BUNDERS

FORM “A” (Report on Arrival)

No. TM/BND/

To,

Deputy Traffic Manager (OOA)

(Through: Sr./Asstt. Traffic Manager, BND)

Sub: Construction / Repair of M.V. _____ at Plot No.
LBS / PWB _____

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- 1) Name of Ship Repairer / Construction Agency :
- 2) Purpose (Repair / Construction) :
- 3) Ref. No and date of Traffic Manager's Permission :
- 4) GRT / DWT of the Ship / Vessel :
- 5) Date of arrival of construction / repairs materials for the vessel at plot :
- 6) Date of arrival of m.v. _____ at the plot :
- 7) Date of commencement of construction / repairs :
- 8) Details of advance payment made :

Shed Superintendent
LBS / PWB

C.C. Traffic Manager – For information please.

MUMBAI PORT AUTHORITY
TRAFFIC DEPARTMENT – BUNDERS
FORM “B” (COMPLETION REPORT)

No. TM/BND/

To,

Deputy Traffic Manager (OOA)

(Through : Sr./Asstt. Traffic Manager, BND)

Sub: Completion of construction / repair of M.V. _____
at Plot No. LBS / PWB _____

- 1) Name of Ship Repairer / Construction Agency :
- 2) Purpose (Repair / Construction) :
- 3) Ref. No and date of Traffic Manager's Permission :
- 4) GRT / DWT of the Ship / Vessel : (a) On Arrival: -
(b) On removal: -
- 5) Date of arrival of construction / repairs materials for the vessel at plot :
- 6) Date of arrival of vessel at the plot :
- 7) Date of commencement of construction / repairs :
- 8) Date of completion of Construction / Repair :
- 9) Date of removal of last piece of Repair / Construction material from vessel from the plot. :
- 10) Date of vacation of the plot, with remarks, if any.:
- 11) Details of charges paid : (i)
(ii)
(iii)
(iv)

Complete charges for this vessel are paid.

Shed Superintendent
LBS / PWB

C.C. Traffic Manager – For information please.

**MUMBAI PORT AUTHORITY
TRAFFIC DEPARTMENT – BUNDERS**

FORM “C” (HANDING OVER / TAKING OVER REPORT)

No. TM/BND/

To,

Deputy Traffic Manager (OOA)

(Through : Sr./Asstt. Traffic Manager, BND)

Sub: Handing Over / Taken Over of plot No. _____ at LBS / PWB for Repair /
construction by M/s _____ on temporary
basis

Ref. No. : TM permission No. ----- for Vessel

- 1) Date of arrival of Construction / Repair Material or vessel :
- 2) Date of arrival of vessel :
- 3) Date of removal of last Ship /vessel :
- 4) Date of removal of last piece of Repair / Construction material from the plot. :

Handing over to Ship Repairer / Construction Agency	Taking over from Ship Repairer / Construction Agency
Date :-	Date :-
Shed Supdt. LBS / PWB	Shed Supdt. LBS / PWB
Name and Sign and seal of Ship repairer / construction Agency	Name and Sign and seal of Ship repairer / construction Agency

C.C. Traffic Manager – For information please.

DECLARATION CUM INDEMNITY

(To be executed on Rs.500/- Stamp Paper duly notarised)

This deed of Indemnity executed on [DATE] at [PLACE] by _____ Proprietor/Partner/Director/Power of Attorney holder of the Firm/ a company constituted under-----, having its registered office at _____, through Mr. _____ as the authorized representative, hereinafter referred to as the 'Indemnifier'. The expression shall, unless it be repugnant to the context or meaning thereof, mean and include its heirs, executors, administrators, successors, representatives and assignees in favour of the Board of Mumbai Port Authority (Board of MbPA) having its registered office at Mumbai Port Authority, Port House, S.V.Marg, Ballard Estate, Mumbai – 400 001, hereinafter referred as the 'Board of MbPA', the expression which shall, unless repugnant to the context or meaning thereof, include its successors and assignees.

WHEREAS the indemnifier hereinabove requested the Board to permit usage of plot for construction /repairs of ships / barges /crafts activity at Lakdi Bunder South / Powder Works Bunder subject to due compliance of terms and conditions as stipulated in Circular No._____ and Policy / SOP attached hereto and amended from time to time and the same have been unequivocally accepted by me/us.

WHEREAS, in terms of Clause No. ___ of the policy /SOP in the subject matter issued under Circular No _____, Indemnifier indemnifies the Board for all the acts carried out on the plot and also for non-compliance, if any, of statutory requirements of the Govt. of India or any other State Govt. or any other statutory authority, till the plot is peacefully vacated / surrendered by the indemnifier to the Board of Mumbai Port Authority after completion of construction / repair activities or as per the requirement of Mumbai Port Authority. In this regard, Indemnifier hereby indemnifies the Board of MbPA from all the liabilities that may arise, in future.

In terms of Clause No.____ of the above referred policy / SOP, the Indemnifier hereby indemnifies the Board of Mumbai Port Authority throughout the activity period for against any claim, demand, loss, costs, charges, damages or expenses whatsoever, which may be incurred or suffered by the Board of MbPA due to any fault/breach/ deficiency during the Ship repairing / construction activity.

The Indemnifier hereby unconditionally undertake that

- (i) the indemnifier shall remove, dismantle all the installations on the plot before vacating/ handing over of the plot.
- (ii) the indemnifier shall be liable for all the preliminary security verification of their workers or sub-contractors, who shall be utilized for the work at the plots. Also Indemnifier shall ensure that present requirements such as NOC, background verification as implied / required by Mumbai Police/other Security agencies shall be complied with.
- (iii) the indemnifier shall undertake that their Sister concerns / Partners / Family members / Associates / Affiliates etc. have no pending port dues, no criminal cases pending against them in any court or have not been convicted for any criminal offences or blacklisted by any port, government department / entity /agencies.
- (iv) The indemnifier shall pay all and up to date port dues before handing over/surrendering of the plot
- (V) The indemnifier shall undertake that there are no outstanding dues against their subject ship/vessel.

Further, the indemnifier undertakes to indemnify and keep indemnified the Board of Mumbai Port Authority against any claim, demand, loss, costs, charges and expenses which may be incurred or suffered by the Board of MbPA, as a consequences thereof.

The Declaration cum Indemnity Bond is binding upon us/our heirs, executors, administrators and /or successor and assigns.

PLACE: _____

DATE: _____

Proprietor/Partners/POA

(Seal of Firm / Director of

Co.)

Witness

1.

2.

Identified by me

BEFORE ME

Safety Measures for Ship Construction or Ship Repairs

I) General requirements

1. Shipbuilding and ship repair facilities should prepare safe work plans for each operation or task in advance to ensure the safety and health of workers and to continually review such plans as operations are carried out and completed.
2. By segmenting shipbuilding and ship repair processes and operations, tasks that are hazardous for the safety and health of workers can be identified and quantified more easily. Using this approach, the construction and repair of ships can be undertaken in a controlled and managed manner and the safety and health of workers can be protected by eliminating or minimizing any risks involved in the work to be undertaken.
3. In the case of ship repair, the ship owner should provide information on any hazardous substance and the ship's condition upon arrival, including specific information on the contents of cargo tanks, before any repair work is carried out in cargo and ballast tanks, void spaces, pipe tunnels, cofferdams, pump rooms and empty fuel and lubrication oil tanks. This should be verified by the employer using suitable detectors to measure the levels of oxygen, carbon dioxide vapours and toxic gasses. This information should be used to adapt safe work plans, if necessary.
4. For every plot, the owner of the ship / barge repairer or construction agency, as the case may be, shall be responsible for the safe performance of entire work of ship building or ship construction at the site.
5. Statutory Permissions - All the applicable rules, regulations for Ship repairs and Ship Construction work shall be followed by the Agency.
6. Training and deployment of workers - It shall be ensure that all workers are imparted proper training for the ship building or ship repairs operations in general and also for the specific jobs they are attending in the plots. Such training shall be with the provision of certification on successful completion of the training program. Moreover, every day all workers should receive safety induction training or Tool Box talk for safe working operations and tasks, which they are going to perform and be issued with relevant PPE and protective clothing, whenever appropriate. Trained workers with tested competence and specialized skills should always be used for demanding and hazardous tasks identified in the safe work plan.
7. Environment Pollution – i) The ship builder or ship repairer shall not allow waste materials such as oil cakes, dead cargo of inorganic stuff like hydrated/solidified cement, thermocol pieces, wooden pieces, rubber pieces, asbestos, scrap iron and other metallic pieces, glass wool, rubber pipes and gaskets, PVC pipelines and pieces of PVC sheets, corks, asbestos pieces etc. to be thrown directly into the sea or on the sea-shore but shall ensure that such waste materials are collected in secured storage facility within the plot and disposed off as per the applicable rules. In any case no open burning of waste within the ship-recycling yard shall be allowed.
ii) The ship builder or ship repairer shall strictly adhere to and follow the instructions or direction or guidelines issued by the State Pollution Control Board.
iii) The ship builder or ship repairer shall sprinkle seawater, daily, over the working area in order to minimize dust generation due to material handling.
8. Guidelines for Permit to Work – Guidelines for any Entry in to confined space Or Working at Height or Mobile DG set are attached, which shall be followed during working. The 'Hot Work Permit' shall be obtained from the Port Safety and Fire Officer of Mumbai Port Authority.
10. It shall be ensured that an individual or comprehensive insurance coverage for all regular and temporary workers working in yard is taken by his employer.

II) Stability – Adequate measures to ensure stability of the structure should include:

- a) a supporting base of adequate strength;
 - b) underlying structures of sufficient strength and stability;
 - c) supports for the hull;
 - d) stays on the outside of the hull; and
 - e) anchoring of winches with strength test shall be carried out (e. g Bollard pull test)
2. It shall be ensure by the responsible person that during entire operation /stay in the yard, the stability of the structure to be repaired or constructed along with its underlying supports in the yard is maintained properly.
3. If there is any danger that the stability of the hull will be affected as work proceeds, stability should be ensured at each stage by suitable measures. No structures supporting the vessel in the yard, and no part of the hull, should be dismantled or removed without the permission of the responsible person. Supports, stays and anchors should be properly secured against sliding, overturning, falling down and buckling.
4. It shall be ensured by the responsible person that soil condition is suitable to withstand stability of structure.

III) Fire Safety Measures - All appropriate measures should be taken by the employer to:

- a) Avoid the risk of fire;
 - b) Control quickly and efficiently any outbreak of fire; and
 - c) Bring about a quick and safe evacuation of persons.
2. Installed and maintained portable fire extinguishers on the plot as advised by the Port safety and Fire Officer, MbPA.
3. Make readily available on the plot firefighting equipment such as fire extinguisher, fire-fighting suits, foam sprayer, liquid foam, oxygen mask, sand box/buckets, fire hose with complete attachment.
4. Maintained adequate open space on the plot for safe passage and easy movement of firefighting units and equipment.
5. Ship repairer or construction firm shall have to make provision for the purpose of firefighting two efficient firefighting pumps in working condition, at all times, at the plot to take water from sea. Provided that one of the above firefighting pumps be installed and maintained in working condition at all times near the engine room with foam and dry powder, until the complete dismantling of the engine room. Provided further that one portable fire extinguisher of suitable type shall always be kept in working condition near every cutting point.

IV) Means of escape in case of fire or other danger - Means of escape should be:

- a) Provided on the ship and from the ship during all construction and repair operations;
 - b) Clearly marked
2. In order to provide adequate emergency access to and from the ship, there should always be a minimum of two separate points of access. These should be located as far apart as is practicable and, where possible, on opposite sides and ends of the ship.
3. Where there is a large workforce in a confined space such as an engine room or pump room, consideration should be given to cutting an access point through the hull to the space. In any event, a safe clear way should always be maintained from the lower to the main deck level.

V) Exchanging hazard information between employers - Each employer whose employees work in confined and enclosed spaces or other dangerous atmospheres shall ensure that all available information on the hazards, safety rules, and emergency procedures concerning those spaces and atmospheres is exchanged with any other employer whose employees may enter the same spaces.

VI) Description of words

- i) **“Hot work”** means any activity involving riveting, welding, burning, and the use of powder-actuated tools or similar fire-producing operations. Grinding, drilling, abrasive blasting, or similar

spark-producing operations are also considered hot work except when such operations are isolated physically from any atmosphere containing more than 10 percent of the lower explosive limit of a flammable or combustible substance.

ii) “Safe for Hot Work” - denotes a space that meets all of the following criteria:

- (a) The oxygen content of the atmosphere does not exceed 22.0 percent by volume;
- (b) The concentration of flammable vapors in the atmosphere is less than 10 percent of the lower explosive limit;
- (c) The residues or materials in the space are not capable of producing a higher concentration than permitted in paragraph (1) or (2) of the above, under existing atmospheric conditions in the presence of hot work and while maintained as directed by the competent person, and
- (d) All adjacent spaces have been cleaned, or inerted, or treated sufficiently to prevent the spread of fire.

iii) “Safe for Workers” - denotes a space that meets the following criteria:

- (a) The oxygen content of the atmosphere is at least 19.5 percent and below 22 percent by volume;
- (b) The concentration of flammable vapors is below 10 percent of the lower explosive limit (LEL);
- (c) Any toxic materials in the atmosphere associated with cargo, fuel, tank coatings, or inerting media are within permissible concentrations at the time of the inspection; and
- (d) Any residues or materials associated with the work authorized by the competent person will not produce uncontrolled release of toxic materials under existing atmospheric conditions while maintained as directed.

iv) Entry in to space - The employer shall ensure that the following spaces are visually inspected and tested by a responsible person to determine the atmosphere’s oxygen content prior to initial entry into the space by an employee:

- (a) Spaces that have been sealed, such as, but not limited to, spaces that have been coated and closed up, and non-ventilated spaces that have been freshly painted;
- (b) Spaces and adjacent spaces that contain or have contained combustible or flammable liquids or gases;
- (c) Spaces and adjacent spaces that contain or have contained liquids, gases, or solids that are toxic, corrosive, or irritant;
- (d) Spaces and adjacent spaces that have been fumigated; and
- (e) Spaces containing materials or residues of materials that create an oxygen-deficient atmosphere. If the space to be entered contains an oxygen deficient atmosphere, the space shall be labelled “Not Safe for Workers”

v) Safety Precautions for Work in the tank - Any activity in the tank could change the atmospheric conditions in that tank. Oxygen from a leaking oxy fuel hose or torch could result in an oxygen-enriched atmosphere that would more easily propagate a flame. Some welding operations use inert gas, and leaks can result in an oxygen-deficient atmosphere. Manual tank cleaning with high pressure spray devices can stir up residues and result in exposures to toxic contaminants. Simple cleaning or mucking out, where employees walk through and shovel residues and sludge, can create a change in atmospheric conditions.

vi) Safety Precautions during Work break - When workers take a break or leave at the end of the shift, equipment sometimes is inadvertently left in the tanks. At lunch or work breaks and at the end of the shift are the times when it is most likely someone will leave a burning or cutting torch in the tank, perhaps turned on and leaking oxygen or an inert gas. Since the former can produce an oxygen- enriched atmosphere, and the latter an oxygen- deficient atmosphere, tanks should be checked for equipment left behind, and atmosphere, monitored if necessary prior to re-entering and resuming work. In an oxygen-enriched atmosphere, the flammable range is severely broadened. This means that an oxygen-enriched atmosphere can promote very rapid burning.

VII) Cleaning Operation -

i) When toxic solvents are used for cleaning operation, the employer shall employ one or more of the following measures to safeguard the health of employees exposed to these solvents.

1. The cleaning operation shall be completely enclosed to prevent the escape of vapor into the working space.
2. Either natural ventilation or mechanical exhaust ventilation shall be used to remove the vapor at the source and to dilute the concentration of vapors in the working space to a concentration which is safe for the entire work period.
3. Employees shall be protected against toxic vapors by suitable respiratory protective equipment in accordance with the requirements and, where necessary, against exposure of skin and eye contact with toxic solvents and their vapors by suitable clothing and equipment.
4. Employees shall be protected against skin contact during the handling and application of chemical paint and preservative removers and shall be protected against eye injury by goggles or face shields.
5. When using paint and rust removers containing strong acids or alkalis, employees shall be protected by suitable face shields to prevent chemical burns on the face and neck.

ii) When steam guns are used, all employees working within range of the blast shall be protected by suitable face shields. Metal parts of the steam gun itself shall be insulated to protect the operator against heat burns.

iii) Employees engaged in the removal of paints, preservatives, rusts, or other coatings by means of power tools shall be

- a) protected against eye injury by using goggles or face shields,
- b) Adequately guarded to protect both the operator and nearby workers from flying missiles.
- c) grounded in accordance with the requirements,
- d) In a confined space, mechanical exhaust ventilation sufficient to keep the dust concentration to a minimum shall be used, or employees shall be protected by respiratory protective equipment.

iv) Removal of Hardened preservative coatings shall not be undertaken in enclosed spaces unless the employees exposed to fumes are protected by airline respirators. Employees performing such an operation in the open air, and those exposed to the resulting fumes shall be protected by a fume filter type respirator.

v) Abrasive Blasting - Hoses and fittings used for this operation shall meet the following requirements:

1. No sand or other substance containing free silica should be used for abrasive blasting on board ships. Used abrasive should not be used again except in closed systems.
 - (a) Hoses. Hose of a type to prevent shocks from static electricity shall be used.
 - (b) Hose couplings. Hose lengths shall be joined by metal couplings secured to the outside of the hose to avoid erosion and weakening of the couplings.
 - (c) Nozzles. Nozzles shall be attached to the hose by fittings that will prevent the nozzle from unintentionally becoming disengaged. Nozzle attachments shall be of metal and shall fit onto the hose externally.
 - (d) Dead man control. A dead man control device shall be provided at the nozzle end of the blasting hose either to provide direct cut off or to signal the pot tender by means of a visual and audible signal to cut off the flow, in the event the blaster loses control of the hose. The pot tender shall be available at all times to respond immediately to the signal.
- (2) Replacement. Hoses and all fittings used for abrasive blasting shall be inspected frequently to insure timely replacement before an unsafe amount of wear has occurred.

(3) Personal protective equipment.

(a) Abrasive blasters working in enclosed spaces shall be protected by hoods and airline respirators, or by air helmets of a positive pressure type in accordance with the requirements.

(b) Abrasive blasters working in the open shall be protected as this section except that when synthetic abrasive containing less than one percent free silica are used, filter type respirators approved jointly by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration for exposure to lead dusts, used in conjunction with the proper eye, face and head protection.

(c) Employees, other than blasters, including machine tenders and abrasive recovery men, working in areas where unsafe concentrations of abrasive materials and dusts are present shall be protected by eye and respiratory protective equipment in accordance with the requirements.

(d) The blaster shall be protected against injury from exposure to the blast by appropriate protective clothing, including gloves.

(e) Since surges from drops in pressure in the hose line can be of sufficient proportions to throw the blaster off the staging, the blaster shall be protected by a safety belt when blasting is being done from elevations where adequate protection against falling cannot be provided by railings.

VIII) Painting Work

i) Spray painting -

1. Spray painting should not be carried out using any toxic material, such as lead, carbon bisulphide, carbon tetrachloride, mercury, antimony, arsenic, arsenic compounds or methanol, or a mixture containing more than 1 per cent of benzene, unless the workers wear adequate airline breathing apparatus.

2. All other hazards associated with this work, such as noise and manual handling, should be controlled.

3. Any place in which spray painting is being carried out should be ventilated by either natural or mechanical means, workers should be so protected by adequate airline breathing apparatus that the solvent concentration they inhale is kept within safe limits.

4. Spray painting of internal surfaces, such as those of cisterns, tanks and compartments, should only be allowed when:

- a) airline breathing apparatus is supplied and used, the air to be pre-warmed if necessary;
- b) the workers are provided with PPE; and
- c) no other work is carried out in the area.

5. A sufficient number of fire extinguishers of the foam or another suitable type should be maintained at the place where any material having a nitrocellulose or other flammable content is being used.

6. No person should smoke, or have any fire, naked flame or other source of ignition in any place in which spray painting is being carried out, or in its vicinity.

7. All metal parts of equipment and appliances used for spray painting, and also metal articles to be spray painted, should be electrically bonded and earthed. The proper condition of the earthing system, conductors, earthing connections, equipment and appliances should be verified at least once a month.

8. Painting appliances working under pressure, such as oil separators and oil pump tanks, should be equipped with the necessary fittings: a valve for reducing the pressure of the air entering the appliance and a tested and sealed pressure gauge. The gauge dial should be marked with a red line indicating the maximum permissible working pressure. Connections in the air hose should be firmly secured so as to prevent them from being impaired by the pressure of the compressed air.

ii) **Painting** - When paints mixed with toxic solvents are sprayed, the following conditions shall apply:

(a) In confined spaces, employees continuously exposed to such spraying shall be protected by airline respirators in accordance with the requirements.

(b) In tanks or compartments, employees continuously exposed to such spraying shall be protected by airline respirators in accordance with the requirements. Where mechanical ventilation is provided, employees shall be protected by respirators in accordance with the requirements.

(c) In large and well ventilated areas, employees exposed to such spraying shall be protected by respirators.

2. Where brush application of paints with toxic solvents is done in confined spaces or in other areas where lack of ventilation creates a hazard, employees shall be protected by filter respirators.

iii) **Several organic coatings, adhesives and resins are dissolved** in highly toxic, flammable and explosive solvents with flash points below 80°F. Work involving such materials shall be done only when all of the following special precautions have been taken:

(1) Sufficient exhaust ventilation shall be provided to keep the concentration of solvent vapors below ten (10) percent of the lower explosive limit. Frequent tests shall be made by a competent person to ascertain the concentration.

(2) If the ventilation fails or if the concentration of solvent vapors reaches or exceeds ten (10) percent of the lower explosive limit, painting shall be stopped and the compartment shall be evacuated until the concentration again falls below ten (10) percent of the lower explosive limit. If the concentration does not fall when painting is stopped, additional ventilation to bring the concentration to below ten (10) percent of the lower explosive limit shall be provided.

(3) Ventilation shall be continued after the completion of painting until the space or compartment is gas free. The final determination as to whether the space or compartment is gas free shall be made after the ventilating equipment has been shut off for at least 10 minutes.

(4) Exhaust ducts shall discharge clear of working areas and away from sources of possible ignition. Periodic tests shall be made to ensure that the exhausted vapors are not accumulating in other areas within or around the vessel or dry dock.

(5) All motors and control equipment shall be of the explosion-proof type. Fans shall have nonferrous blades. Portable air ducts shall also be of nonferrous materials. All motors and associated control equipment shall be properly maintained and grounded.

(6) Only non-sparking paint buckets, spray guns and tools shall be used. Metal parts of paint brushes and rollers shall be insulated. Staging shall be erected in a manner which ensures that it is non-sparking.

(7) Only explosion proof lights, approved shall be used.

(8) A competent person shall inspect all power and lighting cables to ensure that the insulation is in excellent condition, free of all cracks and worn spots, that there are no connections within fifty (50) feet of the operation, that lines are not overloaded, and that they are suspended with sufficient slack to prevent undue stress or chafing.

(9) The face, eyes, head, hands, and all other exposed parts of the bodies of employees handling such highly volatile paints shall be protected. All footwear shall be non-sparking, such as rubbers, rubber boots or rubber soled shoes without nails. Coveralls or other outer clothing shall be of cotton. Rubber, rather than plastic, gloves shall be used because of the danger of static sparks.

(10) No matches, lighted cigarettes, cigars, or pipes, and no cigarette lighters or ferrous articles shall be taken into the area where work is being done.

(11) All solvent drums taken into the compartment shall be placed on nonferrous surfaces and shall be grounded to the vessel. Metallic contact shall be maintained between containers and drums when materials are being transferred from one to another.

(12) Spray guns, paint pots, and metallic parts of connecting tubing shall be electrically bonded, and the bonded assembly shall be grounded to the vessel.

(13) All employees continuously in a compartment in which such painting is being performed shall be protected by airline respirators in accordance with the requirements of Subpart I of this Part and by suitable protective clothing. Employees entering such compartments for a limited time shall be protected by filter cartridge type respirators in accordance with the requirements of Subpart I of this Part.

(14) All employees doing exterior paint spraying with such paints shall be protected by suitable filter cartridge type respirators in accordance with the requirements of Subpart I of this Part and by suitable protective clothing.

IX) General Measures

1) The metallic parts of air moving devices, including fans, blowers, and jet-type air movers, and all duct work shall be electrically bonded to the vessel's structure.

2) All air moving equipment and its component parts, including duct work, capable of generating a static electric discharge of sufficient energy to create a source of ignition, shall be bonded electrically to the structure of a vessel or vessel section or, in the case of land-side spaces, grounded to prevent an electric discharge in the space.

3) When a tank or space has been tested and declared safe, then subsequently left unattended for a period of time, it should be retested prior to entry and starting work.

X) Mechanical ventilation requirements

(1) For purposes of this section, mechanical ventilation shall meet the following requirements:

(a) Mechanical ventilation shall consist of either general mechanical ventilation systems or local exhaust systems.

(b) General mechanical ventilation shall be of sufficient capacity and so arranged as to produce the number of air changes necessary to maintain welding fumes and smoke within safe limits.

(c) Local exhaust ventilation shall consist of freely movable hoods intended to be placed by the welder or burner as close as practicable to the work. This system shall be of sufficient capacity and so arranged as to remove fumes and smoke at the source and keep the concentration of them in the breathing zone within safe limits.

(d) Contaminated air exhausted from a working space shall be discharged into the open air or otherwise clear of the source of intake air.

(e) All air replacing that withdrawn shall be clean and respirable.

(f) Oxygen shall not be used for ventilation purposes, comfort cooling, blowing dust or dirt from clothing, or for cleaning the work area.

2. General ventilation shall be provided whenever welding, cutting or heating is performed in a confined space.

3. When sufficient ventilation cannot be obtained without blocking the means of access, employees in the confined space shall be protected by airline respirators and an employee on the outside of such a confined space shall be assigned to maintain communication with those working within it and to aid them in an emergency.

XI) Welding, Cutting or Heating

i) Welding, cutting or heating of metals of toxic significance.

(1) Welding, cutting or heating in any enclosed spaces aboard the vessel involving the metals specified below shall be performed with either general mechanical or local exhaust ventilation

(a) Zinc-bearing base or filler metals or metals coated with zinc-bearing materials.

(b) Lead base metals.

(c) Cadmium-bearing filler materials.

(d) Chromium-bearing metals or metals coated with chromium-bearing materials

(2) Welding, cutting or heating in any enclosed spaces aboard the vessel involving the metals specified below shall be performed with local exhaust ventilation or employees shall be protected by airline respirators

(a) Metals containing lead, other than as an impurity, or metals coated with lead-bearing materials.

(b) Cadmium-bearing or cadmium coated base metals.

(c) Metals coated with mercury-bearing metals.

(d) Beryllium-containing base or filler metals. Because of its high toxicity, work involving beryllium shall be done with both local exhaust ventilation and airline respirators.

3) Employees performing such operations in the open air shall be protected by filter type respirators, and employees performing such operations on beryllium-containing base or filler metals shall be protected by airline respirators.

ii) General welding, cutting, and heating.

(1) Welding, cutting and heating not involving conditions or materials described in above paragraphs may normally be done without mechanical ventilation or respiratory protective equipment, but where, because of unusual physical or atmospheric conditions, an unsafe accumulation of contaminants exists, suitable mechanical ventilation or respiratory protective equipment shall be provided.

(2) Employees performing any type of welding, cutting or heating shall be protected by suitable eye protective equipment

iii) Welding, cutting and heating in way of preservative coatings

1. Before welding, cutting or heating is commenced on any surface covered by a preservative coating whose flammability is not known, a test shall be made by a responsible person to determine its flammability. Preservative coatings shall be considered to be highly flammable when scrapings burn with extreme rapidity.

2. Precautions shall be taken to prevent ignition of highly flammable hardened preservative coatings. When coatings are determined to be highly flammable they shall be stripped from the area to be heated to prevent ignition, or, where shipbreaking is involved, the coatings may be burned away under controlled conditions. A 1 1/2 inch or larger fire hose with fog nozzle, which has been uncoiled and placed under pressure, shall be immediately available for instant use in the immediate vicinity.

iv) Protection against toxic preservative coatings

1. In enclosed spaces, all surfaces covered with toxic preservatives shall be stripped of all toxic coatings for a distance of at least 4 inches from the area of heat application or the employees shall be protected by airline respirators.

2. In the open air, employees shall be protected by a filter type respirator.

3. A responsible person shall test the atmosphere in the space to ensure that it does not contain explosive vapors, since there is a possibility that some soft and greasy preservatives may have flash points below temperatures which may be expected to occur naturally. If such vapors are determined to be present, no hot work shall be commenced until such precautions have been taken as will ensure that the welding, cutting or heating can be performed in safety.

4. The preservative coatings shall be removed for a sufficient distance from the area to be heated to ensure that the temperature of the unstripped metal will not be appreciably raised. Artificial cooling of the metal surrounding the heated area may be used to limit the size of the area required to be cleaned.

5. Before welding, cutting, heating or brazing is begun on structural voids such as skegs, bilge keels, fair waters, masts, booms, support stanchions, pipe stanchions or railings, a competent person shall inspect the object and, if necessary, test it for the presence of flammable liquids or vapors. If flammable liquids or vapors are present, the object shall be made safe.

v) Transporting, moving and storing compressed gas cylinders.

- (1) Valve protection caps shall be in place and secure. Oil shall not be used to lubricate protection caps.
- (2) When cylinders are hoisted, they shall be secured on a cradle, slingboard or pallet. They shall not be hoisted by means of magnets or choker slings.
- (3) Cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dropped, struck, or permitted to strike each other violently.
- (4) When cylinders are transported by vehicle, they shall be secured in position.
- (5) Valve protection caps shall not be used for lifting cylinders from one vertical position to another. Bars shall not be used under valves or valve protection caps to pry cylinders loose when frozen. Warm, not boiling, water shall be used to thaw cylinders loose.
- (6) Unless cylinders are firmly secured on a special carrier intended for this purpose, regulators shall be removed and valve protection caps put in place before cylinders are moved.
- (7) A suitable cylinder truck, chain, or other steadying device shall be used to keep cylinders from being knocked over while in use.
- (8) When work is finished, when cylinders are empty or when cylinders are moved at any time, the cylinder valves shall be closed.
- (9) Acetylene cylinders shall be secured in an upright position at all times except, if necessary, for short periods of time while cylinders are actually being hoisted or carried

vi) Placing cylinders.

- (1) Cylinders shall be kept far enough away from the actual welding or cutting operation so that sparks, hot slag or flame will not reach them. When this is impractical, fire resistant shields shall be provided.
- (2) Cylinders shall be placed where they cannot become part of an electrical circuit. Electrodes shall not be struck against a cylinder to strike an arc.
- (3) Fuel gas cylinders shall be placed with valve end up whenever they are in use. They shall not be placed in a location where they would be subject to open flame, hot metal, or other sources of artificial heat.
- (4) Cylinders containing oxygen or acetylene or other fuel gas shall not be taken into confined spaces.

vii) Use of fuel gas. The employer shall thoroughly instruct employees in the safe use of fuel gas, as follows:

- (a) Before connecting a regulator to a cylinder valve, the valve shall be opened slightly and closed immediately. (This action is generally termed "cracking" and is intended to clear the valve of dust or dirt that might otherwise enter the regulator.) The person cracking the valve shall stand to one side of the outlet, not in front of it. The valve of a fuel gas cylinder shall not be cracked where the gas would reach welding work, sparks, flame or other possible sources of ignition.
- (b) The cylinder valve shall always be opened slowly to prevent damage to the regulator. To permit quick closing, valves on fuel gas cylinders shall not be opened more than 1 1/2 turns. When a special wrench is required, it shall be left in position on the stem of the valve while the cylinder is in use so that the fuel gas flow can be shut off quickly in case of an emergency. In the case of manifold or coupled cylinders, at least one such wrench shall always be available for immediate use. Nothing shall be placed on top of a fuel gas cylinder, when in use, which may damage the safety device or interfere with the quick closing of the valve.
- (c) Fuel gas shall not be used from cylinders through torches or other devices which are equipped with shut-off valves without reducing the pressure through a suitable regulator attached to the cylinder valve or manifold.
- (d) Before a regulator is removed from a cylinder valve, the cylinder valve shall always be closed and the gas released from the regulator.
- (e) If, when the valve on a fuel gas cylinder is opened, there is found to be a leak around the valve stem, the valve shall be closed and the gland nut tightened. If this action does not stop the leak, the

use of the cylinder shall be discontinued, and it shall be properly tagged and removed from the vessel. In the event that fuel gas should leak from the cylinder valve rather than from the valve stem and the gas cannot be shut off, the cylinder shall be properly tagged and removed from the vessel. If a regulator attached to a cylinder valve will effectively stop a leak through the valve seat, the cylinder need not be removed from the vessel.

(f) If a leak should develop at a fuse plug or other safety device, the cylinder shall be removed from the vessel.

viii) Fuel gas and oxygen manifolds.

(1) Fuel gas and oxygen manifolds shall bear the name of the substance they contain in letters at least one inch high which shall be either painted on the manifold or on a sign permanently attached to it.

(2) Fuel gas and oxygen manifolds shall be placed in safe and accessible locations in the open air. They shall not be located within enclosed spaces.

(3) Manifold hose connections, including both ends of the supply hose that lead to the manifold, shall be such that the hose cannot be interchanged between fuel gas and oxygen manifolds and supply header connections. Adapters shall not be used to permit the interchange of hose. Hose connections shall be kept free of grease and oil.

(4) When not in use, manifold and header hose connections shall be capped.

(5) Nothing shall be placed on top of a manifold, when in use, which will damage the manifold or interfere with the quick closing of the valves.

Hose.

(1) Fuel gas hose and oxygen hose shall be easily distinguishable from each other. The contrast may be made by different colors or by surface characteristics readily distinguishable by the sense of touch. Oxygen and fuel gas hoses shall not be interchangeable. A single hose having more than one gas passage, a wall failure of which would permit the flow of one gas into the other gas passage, shall not be used.

(2) When parallel sections of oxygen and fuel gas hose are taped together not more than 4 inches out of 8 inches shall be covered by tape.

(3) All hose carrying acetylene, oxygen, natural or manufactured fuel gas, or any gas or substance which may ignite or enter into combustion or be in any way harmful to employees, shall be inspected at the beginning of each shift. Defective hose shall be removed from service.

(4) Hose which has been subjected to flashback or which shows evidence of severe wear or damage shall be tested to twice the normal pressure to which it is subject, but in no case less than two hundred (200) psi. Defective hose or hose in doubtful condition shall not be used.

(5) Hose couplings shall be of the type that cannot be unlocked or disconnected by means of a straight pull without rotary motion.

(6) Boxes used for the stowage of gas hose shall be ventilated.

ix) Torches

(1) Clogged torch tip openings shall be cleaned with suitable cleaning wires, drills or other devices designed for such purpose.

(2) Torches shall be inspected at the beginning of each shift for leaking shutoff valves, hose couplings, and tip connections. Defective torches shall not be used.

(3) Torches shall be lighted by friction lighters or other approved devices, and not by matches or from hot work.

x) Pressure regulators - Oxygen and fuel gas pressure regulators including their related gauges shall be in proper working order while in use and should be calibrated periodically.

B) Arc welding and cutting

i) Manual electrode holders.

(1) Only manual electrode holders which are specifically designed for arc welding and cutting and are of a capacity capable of safely handling the maximum rated current required by the electrodes shall be used.

(2) Any current carrying parts passing through the portion of the holder which the arc welder or cutter grips in his hand, and the outer surfaces of the jaws of the holder, shall be fully insulated against the maximum voltage encountered to ground.

ii) Welding cables and connectors.

(1) All arc welding and cutting cables shall be of the completely insulated, flexible type, capable of handling the maximum current requirements of the work in progress, taking into account the duty cycle under which the arc welder or cutter is working.

(2) Only cable free from repair or splices for a minimum distance of ten (10) feet from the cable end to which the electrode holder is connected shall be used, except that cables with standard insulated connectors or with splices whose insulating quality is equal to that of the cable are permitted.

(3) When it becomes necessary to connect or splice lengths of cable one to another, substantial insulated connectors of a capacity at least equivalent to that of the cable shall be used. If connections are effected by means of cable lugs, they shall be securely fastened together to give good electrical contact, and the exposed metal parts of the lugs shall be completely insulated.

(4) Cables in poor repair shall not be used. When a cable other than the cable lead referred to in paragraph (b)(2) of this section becomes worn to the extent of exposing bare conductors, the portion thus exposed shall be protected by means of rubber and friction tapes or other equivalent insulation.

iii) Ground returns and machine grounding.

(1) A ground return cable shall have a safe current carrying capacity equal to or exceeding the specified maximum output capacity of the arc welding or cutting unit which it services. When a single ground return cable services more than one unit, its safe current carrying capacity shall equal or exceed the total specified maximum output capacities of all the units which it services.

(2) Structures or pipe lines, except pipe lines containing gases of flammable liquids or conduits containing electrical circuits, shall not be used as part of the ground return circuit.

(3) When a structure or pipe line is employed as a ground return circuit, it shall be determined that the required electrical contact exists at all joints. The generation of an arc, sparks or heat at any point shall cause rejection of the structure as a ground circuit.

(4) When a structure or pipe line is continuously employed as a ground return circuit, all joints shall be bonded, and periodic inspections shall be conducted to ensure that no condition of electrolysis or fire hazard exists by virtue of such use.

(5) The frames of all arc welding and cutting machines shall be grounded either through a third wire in the cable containing the circuit conductor or through a separate wire which is grounded at the source of the current. Grounding circuits, other than by means of the vessel's structure, shall be checked to ensure that the circuit between the ground and the grounded power conductor has resistance low enough to permit sufficient current to flow to cause the fuse or circuit breaker to interrupt the current.

(6) All ground connections shall be inspected to ensure that they are mechanically strong and electrically adequate for the required current.

iv) Operating instructions. Employers shall instruct employees in the safe means of arc welding and cutting as follows:

(1) When electrode holders are to be left unattended, the electrodes shall be removed and the holders shall be so placed or protected that they cannot make electrical contact with employees or conducting objects.

(2) Hot electrode holders shall not be dipped in water, since to do so may expose the arc welder or cutter to electric shock.

(3) When the arc welder or cutter has occasion to leave his work or to stop work for any appreciable length of time, or when the arc welding or cutting machine is to be moved, the power supply switch to the equipment shall be opened.

(4) Any faulty or defective equipment shall be reported to the supervisor.

v) **Shielding.** Whenever practicable, all arc welding and cutting operations shall be shielded by non-combustible or flame-proof screens which will protect employees and other persons working in the vicinity from the direct rays of the arc.

C) Inert-gas metal-arc welding.

(1) Since the inert-gas metal-arc welding process involves the production of ultraviolet radiation of intensities of 5 to 30 times that produced during shielded metal-arc welding, the decomposition of chlorinated solvents by ultraviolet rays, and the liberation of toxic fumes and gases, employees shall not be permitted to engage in, or be exposed to the process until the following special precautions have been taken:

(a) The use of chlorinated solvents shall be kept at least two hundred (200) feet from the exposed arc, and surfaces prepared with chlorinated solvents shall be thoroughly dry before welding is permitted on such surfaces.

(b) Helpers and other employees in the area not protected from the arc by screening as provided shall be protected by filter lenses. When two or more welders are exposed to each other's arc, filter lens goggles of a suitable type shall be worn under welding helmets or hand shields to protect the welder against flashes and radiant energy when either the helmet is lifted or the shield is removed.

(c) Welders and other employees who are exposed to radiation shall be suitably protected so that the skin is covered completely to prevent burns and other damage by ultraviolet rays. Welding helmets and hand shields shall be free of leaks and openings, and free of highly reflective surfaces.

(d) When inert-gas metal-arc welding is being performed on stainless steel, the requirements shall be met to protect against dangerous concentrations of nitrogen dioxide

XII) Scaffolds, Ladders and Other Working Surfaces

1. General requirements:

- a. All scaffolds and their supports whether of lumber, steel or other material, shall be capable of supporting the load they are designed to carry with a safety factor of not less than four (4)
- b. Scaffolds shall be maintained in a safe and secure condition. Any component of the scaffold which is broken, burned or otherwise defective shall be replaced
- c. No scaffold shall be erected, moved, dismantled or altered except under the supervision of competent persons.
- d. No welding, burning, riveting or open flame work shall be performed on any staging suspended by means of fiber rope

2. Painters' suspended scaffolds:

- a. Manila and wire ropes shall be carefully examined before each operation and thereafter as frequently as may be necessary to ensure their safe condition.
- b. Each end of the scaffold platform shall be supported by a wrought iron or mild steel stirrup or hanger, which in turn is supported by the suspension ropes
- c. No more than two persons shall be permitted to work at one time on a swinging scaffold

3. Access to staging:

- a. Access from below to staging more than 5 feet above a floor, deck or the ground shall consist of well secured stairways, cleated ramps, fixed or portable ladders meeting the applicable requirements or rigid type non collapsible trestles with parallel and level rungs.
- b. Ramps and stairways shall be provided with 36-inch handrails with mid rails.

4. Ladders:

a. General requirements.

- a) The use of ladders with broken or missing rungs or steps, broken or split side rails, or other faulty or defective construction is prohibited. When ladders with such defects are discovered, they shall be immediately withdrawn from service.

Inspection of metal ladders shall include checking for corrosion of interiors of open end, hollow rungs.

- b) Portable ladders shall be lashed, blocked or otherwise secured to prevent their being displaced
- c) Portable metal ladders shall be of strength equivalent to that of wood ladders.
- d) Portable metal ladders shall not be used near electrical conductors nor for electric arc welding operations.

5. Guarding of deck openings and edges:

- a. When employees are working in the vicinity of flush manholes and other small openings of comparable size in the deck and other working surfaces, such openings shall be suitably covered or guarded to a height of not less than 30 inches, except where the use of such guards is made impracticable by the work actually in progress.
- b. When employees are working around open hatches not protected by coamings to a height of 24 inches or around other large openings, the edge of the opening shall be guarded in the working area to height of 36 to 42 inches
- c. When employees are exposed to unguarded edges of decks, platforms, flats, and similar flat surfaces, more than 5 feet above a solid surface, the edges shall be guarded by adequate guardrails
- d. Gratings, walkways, and catwalks, from which sections or ladders have been removed, shall be barricaded with adequate guardrails.

6. Jacob's ladders:

- a. Jacob's ladders shall be of the double rung or flat tread type. They shall be well maintained and properly secured.
- b. Jacob's ladder shall either hang without slack from its lashings or be pulled up entirely

7. Access to confined spaces:

- a. More than one means of access shall be provided to a confined space in which employees are working and in which the work may generate a hazardous atmosphere in the space except where the structure or arrangement of the vessel makes this provision impractical.
- b. When the ventilation ducts required by these regulations must pass through these means of access, the ducts shall be of such a type and so arranged as to permit free passage of an employee through at least two of these means of access.

XIII) General Working Conditions

The provisions of this Subpart apply to general working conditions in shipyard employment, including work on vessels, on vessel sections, and at landside operations, regardless of geographic location.

1. Housekeeping:

- A. **GENERAL REQUIREMENT:** The employer shall establish and maintain good housekeeping practices to eliminate hazards to employees to the extent practicable.
 - a. The employer shall store materials in a manner that does not create a hazard for employees.
 - b. The employer shall maintain easy and open access to each fire-alarm box, fire-call station, fire-fighting equipment, and each exit, including ladders, staircases, scaffolds, and gangways.
 - c. The employer shall dispose of flammable and combustible substances, such as paint thinners, solvents, rags, scrap, and waste, or store them in covered fire-resistant containers at the end of each work shift or when the job is completed, whichever occurs first.

2. **WORKING SURFACES:** The employer shall ensure that each working surface –
 - a. Is cleared of tools, materials, and equipment that are not necessary to perform the job in progress;
 - b. Is cleared of debris, including solid and liquid wastes, at the end of each workshift or job, whichever occurs first;
3. **Lighting:**
 - a. The employer shall ensure that each work area and walkway is adequately lighted whenever an employee is present.
 - b. When adequate illumination is not obtainable by permanent lighting sources, temporary lighting may be used as supplementation.
 - c. Lights are equipped with electric cords designed with sufficient capacity to safely carry the electric load;
 - d. Connections and insulation on electric cords are maintained in a safe condition;
4. **Medical services and first aid**
 - a. The employer shall ensure that emergency medical services and first aid are readily accessible.
 - b. The employer shall ensure that there is an adequate number of employees trained as first aid providers at each worksite during each work shift.
 - c. The employer shall ensure that a first aid provider is able to reach an injured/ill employee within five (5) minutes of a report of a serious injury, illness, or accident such as one involving cardiac arrest, acute breathing problems, uncontrolled bleeding, suffocation, electrocution, or amputation.
 - d. The employer shall ensure that first aid providers are trained to render first aid, including cardiopulmonary resuscitation (CPR).
5. **Sanitation:**
 - a. The employer shall provide adequate and readily accessible sanitation facilities.
 - b. The employer shall provide potable water for all employee health and personal needs and ensure that only potable water is used for these purposes.
 - c. The employer shall provide potable drinking water in amounts that are adequate to meet the health and personal needs of each employee.
6. **Control of hazardous energy (lockout/tags-plus):**
 - a. The employer shall establish and implement a written program and procedures for lockout and tags-plus systems to control hazardous energy during the servicing of any machinery, equipment, or system in shipyard employment.
 - b. The employer shall establish and implement written procedures to prevent energization or startup, or the release of hazardous energy, during the servicing of any machinery, equipment, or system.

XIV) Gear and Equipment for Rigging and Materials Handling

All the equipment on the plot such as crane, winch, chain rope and shackles, generator set and any other safety equipment as may be prescribed from time to time, shall be installed and maintained in accordance with the provisions of the Factories Act, 1948 and Rules made thereunder and any other relevant Acts and Rules.

1. **Inspection:**
 - a. All gear and equipment provided by the employer for rigging and materials handling shall be inspected before each shift and when necessary, at intervals during its use to ensure that it is safe. Defective gear shall be removed and repaired or replaced before further use.
 - b. The safe working load of gear shall not be exceeded.

2. Hoisting and hauling equipment:

- a. The moving parts of hoisting and hauling equipment shall be guarded.
- b. The posted safe working under the conditions of use shall not be exceeded.
- c. Accessible areas within the swing radius of the outermost part of the body of a revolving derrick or crane, whether permanently or temporarily mounted, shall be guarded in such a manner as to prevent an employee from being in such a position as to be struck by the crane or caught between the crane and fixed parts of the vessel or of the crane itself.

XV) Personal Protective Equipment (PPE)

General requirements: The workers is provided with safety gadgets such as helmet, safety shoes, welding goggles, safety belt with safety line, hand- gloves, self-contained breathing apparatus etc. as provided in the relevant Acts and Rules for such purpose and that such safety gadgets are conforming to relevant Indian Standard Specifications (ISI) or equivalent standards are invariably used by the workers during such activities. The employer shall provide and shall ensure that each worker uses the appropriate personal protective equipment (PPE) for the eyes, face, head, extremities, torso, and respiratory system, including protective clothing, protective shields, protective barriers, personal fall protection equipment, and lifesaving equipment, wherever workers are exposed to work activity hazards that require the use of PPE.

Training for proper use of PPE:

- a. The employer shall provide training to each employee who is required, by this section, to use PPE
- b. The employer shall ensure that each affected employee demonstrates the ability to use PPE properly before being allowed to perform work requiring the use of PPE

XVI) Electrical Machinery

1. Before an employee is permitted to work on an electrical circuit, except when the circuit must remain energized for testing and adjusting, the circuit shall be de-energized and checked at the point at which the work is to be done to insure that it is actually de-energized.
2. When testing or adjusting an energized circuit a rubber mat, duck board, or other suitable insulation shall be used underfoot where an insulated deck does not exist.
3. De-energizing the circuit shall be accomplished by opening the circuit breaker, opening the switch, or removing the fuse, whichever method is appropriate. The circuit breaker, switch, or fuse location shall then be locked out or tagged
4. When work is performed immediately adjacent to an open-front energized board or in back of an energized board, the board shall be covered or some other equally safe means shall be used to prevent contact with any of the energized parts

XVII) Fire Protection

1. **Fire safety plan:** The employer must develop and implement a written fire safety plan that covers all the actions that employers and employees must take to ensure employee safety in the event of a fire
2. **Precautions for hot work:**
 - a. The employer must keep all hot work areas free of new hazards that may cause or contribute to the spread of fire.
 - b. **Fuel gas and oxygen supply lines and torches.** The employer must make sure that:
 - (i) No unattended fuel gas and oxygen hose lines or torches are in confined spaces;
 - (ii) No unattended charged fuel gas and oxygen hose lines or torches are in enclosed spaces for more than 15 minutes; and
 - (iii) All fuel gas and oxygen hose lines are disconnected at the supply manifold at the end of each shift;
 - (iv) All disconnected fuel gas and oxygen hose lines are rolled back to the supply manifold or to open air to disconnect the torch; or extended fuel gas and oxygen hose lines are not reconnected at the supply manifold unless the lines are given a positive means of identification when they were first connected and the lines are

tested using a drop test or other positive means to ensure the integrity of fuel gas and oxygen burning system

3. **Fire response:** The employer must Decide what type of response will be provided and who will provide it; and Create, maintain, and update a written policy
4. **Personal protective clothing and equipment for fire response employees:**
 - a. The employer must:
 - (i) Supply to all fire response employees, at no cost, the appropriate personal protective clothing and equipment they may need to perform expected duties; and
 - (ii) Ensure that fire response employees wear the appropriate personal protective clothing and use the equipment, when necessary, to protect them from hazardous exposures
 - b. Respiratory protection: The employer must -
 - c. (i) Provide self-contained breathing apparatus (SCBA) to all fire response employees involved in an emergency operation in an atmosphere that is immediately dangerous to life or health (IDLH), potentially IDLH, or unknown

XVIII) Instruction and sign boards - A board displaying important precautions to be followed during ship-recycling activity and important sign boards should be installed at a prominent place on the plot and that such display is made in Hindi, Marathi and if necessary, in other language as understood by the workers. Board may also cater safety slogans.

Guidelines for Work at Height

Purpose - The purpose of this guidelines is to ensure that safe working environment is maintained for completion of any job carried at a height more than 2 meters from the floor or ground or working at a place, which is likely to cause fall of person in sea or asphyxiation.

Scope - This permit applies to all WORKS CARRIED OUT BY any agency, who are engaged for repairs/service, maintenance, erection, inspection or construction work, demolition carried, etc. in Port premises.

GUIDELINES FOR WORK PERMIT TO WORK AT HEIGHT

Sr. No	Measure to be taken	Yes	No	Remarks
1	If no permanent safe access to work area exist, then proper and safe temporary access is provided.			
2	Every open side or opening into or through which person likely to fall have been covered or guarded by an effective barrier to prevent falls. If covers are being used for opening, then those are securely fixed to prevent its accidental displacement.			
3	Every open side of staircase is provided with a sound handrail and lower rail or other effective means and maintained.			
4	Secure handhold or foothold is provided for any person, who has to work at a place from which he would liable to fall: i) a distance of more than 2 meters; or ii) which is likely to cause drowning or asphyxiation.			
5	If Measure at No. 4 is not practicable, other suitable means like safety harness or safety belt or fall arrest system is provided.			
6	If a Safety harness or Safety belt is provided, then i) it is in sufficient quantity and in sound condition. ii) it has a provision of suitable and secured anchorage iii) the anchorage is not being lower than the level of working position of the person wearing the harness or belt or there is sufficient height clearance for fall arrest. iv) harness/ belt, life line & their all attachment is of adequate strength. v) ensure that it is being always used by the person in the performance			

Sr. No	Measure to be taken	Yes	No	Remarks
	<p>of his work.</p> <p>vi) in case of life line, it is attached to sufficient anchorage point.</p> <p>vii) it is provided with padding, wrapping or similar means to protect it from contact with sharp edges or sharp objects.</p> <p>viii) carried inspection of belt/harness/life line before use by an employee & those which shows any indication of wear, damage & deterioration, which affects its strength are removed from the site?</p> <p>ix) Person wearing safety belt/harness have been instructed in proper method of wearing and using it, as well as attaching it to the life line.</p>			
7	<p>If Safety Net is provided, then</p> <p>i) it is in sound condition</p> <p>ii) it is of sufficient size & strength to catch any person for whose protection, it is used.</p> <p>iii) it is located as to cover the area of possible fall.</p> <p>iv) it is attached to sufficient anchorages or supports outside & beyond the possible area of possible fall.</p> <p>v) it is supported at a height sufficient to prevent sagging to any surface or object beneath, and give impact to fall for the person.</p>			
8	<p>If ladder or step ladder is provided, then</p> <p>i) it is of good construction, sound material and of adequate strength.</p> <p>ii) it's footing is on firm, non-slip & even level surface.</p> <p>iii) it is as far as possible securely fixed so that it cannot move either from its top nor its bottom point of rest.</p> <p>iv) If (iii) above is not practicable then a person has been stationed at the base of ladder all the time to prevent slipping or falling.</p> <p>v) it has sufficient rise & adequate handhold to a height at least one meter above the place of landing of a person working thereat.</p> <p>vi) its firmly secured to prevent undue swaying or undue sagging.</p> <p>vii) no missing or defective rung in the ladder.</p>			
9	<p>If work platform is provided, then</p> <p>i) it is of adequate dimension & sufficiently wide to walk without any risk of tumbling or losing balance.</p> <p>ii) if a person liable to fall therefrom for a distance of more than 3 meters, then as far as practicable be provided with sufficient & suitable guardrails or edge protection to a height of one meter above the landing place.</p> <p>iii) If (ii) above is not possible, then suitable means like safety harness or safety belt or fall arrest system is provided.</p> <p>iv) it is capable to support load of workers, equipment & material.</p>			
10	<p>Piling, shoring and bracing of adequate strength is used in a trench, excavation to protect any person against falling or sliding material</p>			
11	<p>Measures have been taken to prevent falling of objects in the area below the working zone. If not possible, then this is barricaded to prevent entry of person & to protect them from any fall of object</p>			
12	<p>Weather condition such as rain, wind speed, sun glare, etc. and surface condition at working site such as slippery, sharp objects is acceptable</p>			
13	<p>Before commencement of work, the work area has been surveyed for assessment of hazard like crosshead electricity contact, inhalation of fumes or steam, unsuitable surface condition, moving machine parts, etc.</p>			
14	<p>Means of contact in case of emergency and rescue plan, in case of fall arrester, is readily available.</p>			
15	<p>All reasonably practicable steps have been taken to eliminate any foreseeable risk involved in working.</p>			
16	<p>Persons exposed to risks are informed about its nature and safe work procedure and it is implemented to eliminate & control these risks.</p>			

Sr. No	Measure to be taken	Yes	No	Remarks
17	Ensure that adequate supervision is provided to ensure safe work practices for working at heights, are followed			
18	Ensure that method statement, safe work procedure and risk assessment is available for any framework erection, dismantling or shifting is carried out.			
19	Ensure that persons involved in this work is adequately trained.			
20	Tool Box Talk is given to the workers to explain them about hazards associated in the work and its preventive measures.			

Guidelines for Confined Space Entry

I) Purpose - The purpose of this guidelines is to ensure that safe working environment is maintained for completion of any job carried in:

a) A Confined Space means space that:

- i) Is large enough and so configured that an employee can bodily enter and perform assigned work; and
- ii) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and
- iii) Is not designed for continuous employee occupancy.

b) Permit-required confined space means a confined space that has one or more of the following characteristics:

- i) Contains or has a potential to contain a hazardous atmosphere;
- ii) Contains a material that has the potential for engulfing an entrant;
- iii) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section;
- iv) Contains any other recognized serious safety or health hazard.

c) Hazardous Atmosphere means an atmosphere that may expose employees to the risk of death, incapacitation, and impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

- i) Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);
- ii) Airborne combustible dust at a concentration that meets or exceeds its LFL;
- iii) Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
- iv) Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published applicable Rules or Regulations OR which could result in employee exposure in excess of its dose or permissible exposure limit;
- v) Any other atmospheric condition that is immediately dangerous to life or health. .

Guidelines for CONFINED SPACE ENTRY.

Sr. No. -

Date:

Location of Work -

Valid from the date & time _____ to _____ date & time.

Name of the Agency, who will be carrying this Job -

Name of the Site Supervisor –

Sr. No	MEASURES TO BE TAKEN	YES	NO	REMARKS
1	Contain or has a potential to contain a hazardous atmosphere as given in Point No. I (c) above			
2	Contains a material that has the potential for engulfing an entrant			
3	Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section			
4	Contains any other recognized serious safety or health hazard.			
5	If any of the above i. e. Sr. No. 1 to 4 above is Yes, then			
6	Acceptable entry conditions have been specified			
7	Identify and evaluate the hazards of permit spaces before employees enter them			
8	The area does not have potential to contain a hazardous atmosphere			
9	The contractor has been appraised of any precautions or procedures that the host employer has implemented for the protection of employees in or near permit spaces where contractor personnel will be working.			
10	The entry supervisor identified on the permit has signed the entry permit to authorize entry			
11	Before an employee enters the space, the internal atmosphere has been tested, with a calibrated direct-reading instrument. Test first for oxygen, then for combustible gases and vapors, and then for toxic gases and vapors.			
12	Providing each authorized entrant or that employee's authorized representative with the opportunity to observe any monitoring or testing of permit spaces			
13	Purging, inerting, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazard has been carried out.			
14	Equipment, such as ladders, needed for safe ingress and egress are fixed			
15	Any conditions making it unsafe to remove an entrance cover are eliminated before the cover is removed			
16	The opening are guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space.			
17	Providing pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards, if any			
18	Continuous forced air ventilation is being used till all employees have left the space			
19	Isolating the permit space			
20	Electrical grounding has been provided to all power tools			

Sr. No	MEASURES TO BE TAKEN	YES	NO	REMARKS
21	Portable illumination is up to 24 volts only			
22	All necessary Personal protective equipment are used by the workers			
23	Communications equipment are in operation			
24	Rescue and emergency equipment needed are kept at site			
25	Each authorized entrant has used a chest or full body harness, with a retrieval line attached for the successful removal of the entrant			
26	At least one attendant outside the permit space into which entry is authorized for the duration of entry operations is posted with communication system			
27	Training has been provided to rescue personnel			
28	The employer shall ensure that at least one member of the rescue team or service holding a current certification in first aid and CPR is available			
29	Measures have been implemented to prevent unauthorized entry			
30	The atmosphere within the space is being periodically tested			
31	Lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency are installed			
32	Measures shall be implemented for any subsequent re-entry of hazardous material.			
33	Danger signs or by any other equally effective means, of the hazard existence and location of and the danger posed by it posted and informed			

GUIDELINES FOR MOBILE DIESEL GENERATOR SET OPERATION

Sr. No	Measure to be taken	Yes	No	Remarks
1	Is the qualified DG Set Operator posted at site during its operation?			
2	Is the DG Set provided with all the protective safety devices such as overcurrent, short circuit, earth fault protection, etc.?			
3	Are all the metering gauges operational?			
4	Is the hourly readings (including electric load/ current, speed/ rpm, temperature, fuel level, etc.) being recorded?			
5	Is the internal earthing system of DG Set intact?			
6	Are all safety shutdowns and warning systems operational?			
7	Are measures taken to refill DG Set after shutting and cooling it down?			
8	Are the fuel containers kept away from DG Set?			
9	Are all the periodic maintenance and inspections have been carried out as per the manufacturer's manual/ guidelines?			
10	Is visual inspection of DG Set carried out for any possible leaks from fuel lines and filters?			
11	Is the fuel tank filled beyond 80-85% of fuel tank capacity?			
12	Are the thermostat, radiator pressure cap, diesel tank cap and strainer in place before starting the DG Set?			
13	Has the generator been tested "under load" within the past 30 days?			
14	Does the generator unit have a wire to an "Earth" ground (copper rod)			

Sr. No	Measure to be taken	Yes	No	Remarks
15	Are there warning signs for the "hot" surfaces?			
16	Are there safety guards provided around fan, fan belts and other moving parts?			
17	Are their bollards or other suitable barriers for impact protection?			
18	Is a "Caution Auto start" sign visible as one approaches the unit?			
19	Is the battery charger operational?			
20	Are the battery terminals covered with insulated covers?			
21	Check the specific gravity of the battery. Is it > 1.215. If no, charge it			
22	Is the tank integral to the generator unit?			
23	If the tank is separate is it on a concrete pad?			
24	Are the power cords placed correctly?			
25	Is the engine lubricating oil level between 'L' and 'H' marks?			

CHECKLIST BEFORE COMMENCEMENT OF WORK AND SAFETY
PRECAUTIONS TO BE TAKEN FOR HOT WORK

- 1) Following items shall be complied with and checked before commencement of work:-

Sr No	Item	Done	Sr No	Item	Done
A	General points		B	For Hotwork/Entry to confined space	
1	Equipment / Work Area inspected		1	Proper ventilation and Lighting providing	
2	All combustible materials, oil rags and other material prone to combustion removed		2	Proper means of exit / escape provided with watch and lifeline.	
3	Surrounding area checked, cleaned and valves, flanges, joints, etc. covered with fire resistant blanket/ material and safe distance of atleast 15 mtr is maintained		3	Standby personnel provided from Process/ Maint. / Contractor/Fire-Safety supervisor	
4	Considered hazard from other operations and concerned persons alerted		4	Checked for Oil & Gas trapped behind the lining in Equipment	
5	Equipment blinded/ disconnected / closed / isolated / wedge opened.		5	Shield provided against spark	
6	Equipment properly drained /depressurized and steamed / purged /water flushed.		6	Standby persons provided for entry to confined space	
7	Electrical equipment isolated and tagged vide permit no.-		7	Charged fire hose line terminating with hand control branch available at work site.	
8	Welding machine deployed for welding work, earthed properly		8	Fire extinguishers & fire equipment available at site	
9	Proper ventilation and Lighting providing (in case of confine space flameproof lighting are to be provided)		9	Flashback arrestors provided in Blowtorch & Cylinders	
10	Gas test : HCs = % LEL Toxic gas= ppm, O2 = %		10	Spare cylinders fitted with cap assembly stocked separate places in upright position duly chained	
11	Area cordoned off and Precautionary tags / Boards provided.		C	For vehicles :	
12*	Wind direction will be considered, while carrying out the job			Spark Arrestor on the mobile equipment / vehicle provided.	
13	Warning sign is placed and entry restricted with minimal person required at site.		D	For Excavation works	
14	Atleast 02 'EXIT' are provided for safe evacuation (whenever required).		1.	Clearance obtained for excavation / road cutting / Dyke cutting from concerned depart.	

2) Safety precautions to be taken:-

- 1) All personnel are trained and adequately skilled to perform the said job.
- 2) The prescribed safety precautions are explained to the worker carrying the job and it is ensured that they have understood the same.
- 3) In case of any emergency, the persons deployed are aware about the operations of fire extinguishers.
- 4) Responsible person shall be present at hotwork site to supervise the work to ensure that the preventive measures as recommended are strictly observed. He should also check the hotwork site during the tea / lunch / dinner breaks and shift changing period and atleast for 60 minutes after the completion of hotwork, to avoid any fire incident.
- 5) Person carrying work is aware of emergency procedures and contact numbers of fire station viz., 02266566201 / 02266566119.
- 6) The person engaged for job is authorized for carrying out said job and is aware of hazard involved in the job.
- 7) Appropriate safe guards and required personnel protective equipment shall be determined by a careful analysis of the potential hazards and the operations to be performed prior to starting the work.
- 8) In case of fire alarm / siren, all work must immediately be stopped.
- 9) Only certified vehicle / engines and permitted type of electrical equipment and tools are allowed in operating areas.
- 10) Welding machines should be located in non-hazardous and ventilated areas.
- 11) No hot work should be permitted unless the explosive meter reading is Zero.
- 12) When a person is entering confined space, the receiver must keep minimum two standby-designated persons at the manhole or entry point.
- 13) Before box up of any vessel manhole cover, ensure that no men / materials are inside the vessel.

3) The Ship Repairer / Construction Agency have understood and undertaken to comply all points of check list and of safety precautions and accept responsibility for any and all the damages caused as a result of carelessness during hot work being carried out.

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